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<p>(21) International Application Number: PCT/US99/29776</p> <p>(22) International Filing Date: 15 December 1999 (15.12.99)</p> <p>(30) Priority Data: 60/116,515 20 January 1999 (20.01.99) US</p> <p>(71) Applicant (for all designated States except US): THE PROCTER &amp; GAMBLE COMPANY [US/US]; 1 Procter &amp; Gamble Plaza, Cincinnati, OH 45202 (US).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): SCHEIBEL, Jeffrey, John [US/US]; 6651 Miami Trails Drive, Loveland, OH 45140 (US). KOTT, Kevin, Lee [US/US]; 2920 Bentbrook Drive, Cincinnati, OH 45251 (US). CONNOR, Daniel, Stedman [US/US]; 9217 Sagemeadow Drive, Cincinnati, OH 45251 (US). CRIPE, Thomas, Anthony [US/US]; 599 Three Chimneys Lane, Loveland, OH 45140 (US). VINSON, Phillip, Kyle [US/US]; 5803 Windermere Lane, Fairfield, OH 45014 (US). SCHERER, William, Michael [US/US]; 2393 Picnic Woods Drive, Lawrenceburg, IN 47025 (US). KASTURI, Chandrika [US/US]; 10044 Cliffwood Court, Cincinnati, OH 45241 (US). BURCKETT-ST. LAURENT, James, C., T., R. [GB/US]; 11477 Gideon Lane, Cincinnati, OH 45249 (US).</p>		<p>(74) Agents: REED, T., David et al.; The Procter &amp; Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).</p> <p>(81) Designated States: BR, CN, CZ, CZ (Utility model), JP, MX, RU, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i></p>
<p>(54) Title: DISHWASHING DETERGENT COMPOSITIONS CONTAINING MIXTURES OF CRYSTALLINITY-DISRUPTED SURFACTANTS</p>		
<p>(57) Abstract</p> <p>A hand dishwashing compositions comprising: a) about 0.1 % to about 99.9 % by weight of said composition of an alkylarylsulfonate surfactant system comprising from about 10 % to about 100 % by weight of said surfactant system of two or more crystallinity-disrupted alkylarylsulfonate surfactants of formula (B-Ar-D)<sub>a</sub>(M<sup>q+</sup>)<sub>b</sub> wherein D is SO<sub>3</sub><sup>-</sup>, M is a cation or cation mixture, q is the valence of said cation, a and b are numbers selected such that said composition is electroneutral; Ar is selected from benzene, toluene, and combinations thereof; and B comprises the sum of at least one primary hydrocarbyl moiety containing from 5 to 20 carbon atoms and one or more crystallinity-disrupting moieties, wherein said crystallinity-disrupting moieties interrupt or branch from said hydrocarbyl moiety; and wherein said alkylarylsulfonate surfactant system has crystallinity disruption to the extent that its Sodium Critical Solubility Temperature, as measured by the CST Test, is no more than about 40°C; and wherein further said alkylarylsulfonate surfactant system has at least one of the following properties: percentage biodegradation, as measured by the modified SCAS test, that exceeds tetrapropylene benzene sulfonate; and weight ratio of nonquaternary to quaternary carbon atoms in B of at least about 5:1; and b) from about 0.00001 % to about 99.9 % by weight of said composition of a conventional hand dishwashing adjunct; c) from about 0.01 % to about 7 % by weight of composition of a divalent ion selected from the group consisting of magnesium, calcium and mixtures thereof.</p>		